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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE****Before the Board of Patent Appeals and Interferences****In re the Application**

**Inventor** : **KWONG**  
**Application No.** : **10/533,723**  
**Filed** : **05/03/2005**  
**For** : **HIGH-FREQUENCY DEVICE**


**APPEAL BRIEF****On Appeal from Group Art Unit 2841****Date:** 07/16/2007

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Michael Ure  
(Name)

 7/16/07  
(Signature and Date)

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### RELATED PROCEEDINGS

### EVIDENCE

### TABLE OF CASES

NONE

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### **I. REAL PARTY IN INTEREST**

The real party in interest is NXP B.V., the successor in interest to the present assignee of record of the present application, Koninklijke Philips Electronics N.V., and not the party named in the above caption.

### **II. RELATED APPEALS AND INTERFERENCES**

With regard to identifying by number and filing date all other appeals or interferences known to Appellant which will directly effect or be directly affected by or have a bearing on the Board's decision in this appeal, Appellant is not aware of any such appeals or interferences.

### **III. STATUS OF CLAIMS**

Claims 1-6 are pending, all of which stand finally rejected and form the subject matter of the present appeal. Claims 7 and 8 have been canceled.

### **IV. STATUS OF AMENDMENTS**

All amendments have been entered. No amendment after final rejection has been submitted.

### **V. SUMMARY of the CLAIMED SUBJECT MATTER**

The present invention relates to a housing structure or "can" for a TV tuner or the like. The can houses a printed circuit board to which various electronic components, including RF components, are attached. In the construction of such a can, it is important

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that a reliable ground connection be established between the can and the printed circuit board. It is also important that the frame of the can cover the edges of the printed circuit board to the greatest extent possible. These objectives are achieved in the present invention by providing the frame with leg sections that extend through holes in the printed circuit board and are soldered to the printed circuit board. The printed circuit board has at least one hole that extends through the outer side wall of the frame, and in fact all of the holes that receive the leg sections may be so arranged. As a result, the frame is enabled to cover an edge portion of the printed circuit board on each side thereof. This construction may be appreciated with reference to Figure 2 of the application.

The following analysis of independent claim 1 is presented for convenience:

Element	Figure(s)	Paragraph(s) and/or page(s)
1. A device comprising:		
a frame provided with an outer side way and leg sections extending from said walls; and	Fig. 2, 16	Page 3, lines 3-24
a printed circuit board having a plurality of spaced holes, said leg sections extending through respective holes and being soldered to said printed circuit board so as to couple said frame to said printed circuit board such that said frame covers an edge of said printed circuit board on each side thereof,	Fig. 2, 19	Page 3, lines 3-24
said printed circuit board having a part provided with at least one of said spaced holes and extending through said outer side wall.	Fig 2, 18	Page 3, lines 3-24

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**VI. GROUNDS of REJECTION to be REVIEWED ON APPEAL**

The issues in the present matter are whether:

1. under 35 USC 103(a), claims 1-6 are unpatentable over Noji in view of Nigorikawa.

**VII. ARGUMENT****I. Rejection of Claims 1-6 as Unpatentable Over Noji in View of Nigorikawa**

Noji and Nigorikawa both relate to the same field of endeavor as the present invention. Both disclose cans for tuners, with a frame of the can being attached to a printed circuit board. However, the respective attachment mechanisms of the two references are distinct. No suggestion is found of how to modify the primary reference (Noji) so as to preserve those features common to the present invention (namely leg sections) while obtaining the further feature of the secondary reference (Nigorikawa) common to the present invention (namely the frame covering an edge of the printed circuit board on each side thereof).

The construction of the Noji device can be well-appreciated from Figure 2 thereof. The frame 11 is provided with tabs 11a ("leg sections") that engage with holes 10a in the printed circuit board. In this construction, the frame sits on top of the printed circuit board. Hence, the frame does not cover an edge of the printed circuit board on each side thereof as claimed.

The construction of the Nigorikawa device can be well-appreciated from Figure 4 thereof. As described at col. 3, lines 5-9, "A printed circuit board 14 is housed in the frame 11 and positioned by engagement in positioning projections 11a defined in side plates of the frame 11. The printed-circuit board 14 has edges fixed by solder bodies 15a to inner surfaces of the frame 11." It may be seen that the frame does cover an edge of the printed circuit board on each side thereof as claimed.

However, there is no suggestion of combining the teachings of the references in such a way as to preserve the leg sections of Noji and simultaneously achieve the frame

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covering the edge of the printed circuit board on each side as in Nigorikawa. With the frame covering the edge of the printed circuit board on each side as in Nigorikawa, the leg sections of Noji become superfluous.

In the case of both references, the edges of the printed circuit board are straight. Neither reference teaches the feature of a part of the printed circuit board being provided with at least one of the spaced holes and extending through the outer side wall. This is an important feature in enabling the beneficial effects of the invention to be achieved, and this is the feature that is uniformly absent from the cited references.

It therefore would not have been obvious to combine the teachings of Noji and Nigorikawa to arrive at the invention of claim 1.

With regard to dependent claims 2-6, these claims depend from independent claim 1, which has been shown to be patently distinguishable over the cited reference. Accordingly, these claims are also patently distinguishable and allowable over the cited references by virtue of their dependency upon an allowable base claim.


In view of the above, applicant submits that all of the above referred-to claims are patentable over the teachings of the cited references.

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### VIII. CONCLUSION

In view of the above analysis, it is respectfully submitted that the referenced teachings, whether taken individually or in combination, fail to anticipate or render obvious the subject matter of any of the present claims. Therefore, reversal of all outstanding grounds of rejection is respectfully solicited.

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**IX. APPENDIX: THE CLAIMS ON APPEAL**

1. A device comprising:

a frame provided with an outer side wall and leg sections extending from said walls; and

a printed circuit board having a plurality of spaced holes, said leg sections extending through respective holes and being soldered to said printed circuit board so as to couple said frame to said printed circuit board such that said frame covers an edge of said printed circuit board on each side thereof, said printed circuit board having a part provided with at least one of said spaced holes and extending through said outer side wall.

2. The high-frequency device of claim 1, wherein said outer side wall is provided with at least one cut-out part, in which said leg section is located and through which said part of said printed circuit board extends upon coupling said frame to said printed circuit board.

3. The high-frequency device of claim 1, wherein said frame further comprises a plurality of outer side walls each provided with respective leg sections, said leg sections extending through respective holes located in respective parts of the printed circuit board, which extend through said outer side walls.

4. The high-frequency device of claim 1, wherein said frame further comprises one or more inner walls bridging said outer side wall and provided with respective leg sections.

5. The high-frequency device of claim 1, wherein said printed circuit board frame comprises inner and outer parallel surfaces delimited by said outer side wall and having one or more second throughgoing holes of said plurality of spaced holes, said throughgoing holes being configured to respective leg sections of said frame upon coupling said frame to said printed circuit board.

6. The high-frequency device of claim 1, wherein said printed circuit board extends perpendicularly to the outer side wall of said frame upon coupling said frame to said printed circuit board.

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**X. APPENDIX: RELATED PROCEEDINGS**

NONE

**XI. APPENDIX: EVIDENCE**

NONE